

Patent claims:

1. Device for scanning a yarn (2) that is moved in its longitudinal direction in a measuring gap (1) with a light
5 beam (3) from a light source, which device has a receiver (5, 6) for light reflected at the yarn and a unit (9) for processing electrical signals from the receiver, characterised in that a single light source (4) is provided for emitting light in at least two wavelength
10 regions (29, 30), the wavelength regions being determined by two main wavelengths (32, 33) and the unit (9) for processing electrical signals from the receiver for received light having a computer which forms a vector (44, 45, 46) from the values for each of the at least two
15 specified wavelength regions and forms a sum vector (47) from the vectors.

2. Device according to claim 1, characterised in that the main wavelengths determine two colours in the region of
20 wavelengths of visible light.

3. Device according to claim 2, characterised in that the main wavelengths relate to the colours red, green and blue.

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4. Device according to claim 1, characterised in that the single light source (4) is in the form of a light-emitting diode which is able separately to emit visible light in three colours in the visible range.

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5. Device according to claim 1, characterised in that the single light source and a receiver (6) have principal axes

(11, 12) for the emission and reception of light which together span a plane that is transverse to the longitudinal direction of the yarn.

- 5 6. Device according to claim 1, characterised in that for the end point (51) of the sum vector (47) in a space (42) a region (48, 49, 50) is delimited which indicates whether the electrical signal from the receiver processed to form the sum vector indicates a foreign body in the yarn.

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7. Device according to claim 6, characterised in that the space (42) forms a cube which is formed by axes (52, 53, 54) along which values for the intensity of three main wavelengths are plotted.

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